

Title (en)

GaAs SUBSTRATE WITH COMPOSITIONALLY GRADED AlGaAsSb BUFFER FOR FABRICATION OF HIGH-INDIUM FETS

Title (de)

GaAs-SUBSTRAT MIT GRADIENT ZUSAMMENGESETZTEM AlGaAsSb-PUFFER ZUR HERSTELLUNG VON FELD-EFFEKT-TRANSISTOREN MIT HOHEM INDIUM-GEHALT

Title (fr)

SUBSTRAT DE GaAs PRESENTANT UN TAMPON A COMPOSITION PROGRESSIVE DE AlGaAsSb POUR LA REALISATION DE TRANSISTORS A EFFETS DE CHAMP A FORTE TENEUR EN INDIUM

Publication

**EP 0840942 B1 20040225 (EN)**

Application

**EP 96941332 A 19961108**

Priority

- US 9617956 W 19961108
- US 55502795 A 19951108

Abstract (en)

[origin: WO9717723A1] Semiconductor devices made in high-indium-content semiconductor material (16) have advantageous properties, but similar substrate materials are hard to handle. A buffer layer (18) makes a lattice-constant transition between a GaAs substrate and a high-indium epitaxially deposited semiconductor such as those lattice-matched to InP. The buffer layer (18) is an epitaxial layer including atoms of two Group III elements, and atoms of two Group V elements, with the ratio of the atoms of at least one group varied along the depth of the buffer layer, in a manner which makes a transition of the lattice constant between that of the substrate and the high-indium semiconductor material. The Group III elements are gallium and aluminum, and the Group V elements are arsenic and antimony.

IPC 1-7

**H01L 21/203**; **H01L 29/205**; **H01L 31/0304**

IPC 8 full level

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CPC (source: EP US)

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**WO 9717723 A1 19970515**; DE 69631662 D1 20040401; DE 69631662 T2 20040729; EP 0840942 A1 19980513; EP 0840942 A4 19991103; EP 0840942 B1 20040225; US 5770868 A 19980623

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